

Bering Straits Coastal Resource Service Area Coastal Management Plan Enforceable and Administrative Policies

Effective Date: December 22,1989

The following policies apply to all activities and uses of coastal lands and waters within the General Use Area of the Bering Straits CRSA.

A. Subsistence

A-1 Subsistence Use

Subsistence use of the coastal lands and waters of the Bering Straits CRSA has traditionally been the primary and highest priority use of all lands and waters within the coastal management plan area; therefore, all other land/water uses and activities shall ensure that through careful planning, development, and operation of a resource extraction or development project, all steps will be taken to mitigate adverse impacts to subsistence resources and their use in accordance with Policy F-2.

Evaluation. The Shishmaref residents use coastline for fishing and hunting. The revetment would be on the bluff line in front of structures. Subsistence would not be affected.

A-2 Planning Processes [Administrative Policy]

Where uses and activities may have a significant adverse impact on subsistence resources and activities, the Bering Straits CRSA Board shall work, if requested, with affected communities and resource-dependent users to identify subsistence resource concerns and to develop appropriate mitigative measures and stipulations for development activities, in accordance with the procedures identified in Chapter 6, Implementation.

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2. The proposed action would not cause a change in the manner natural resources are used, limit any uses, or change the quality or quantity of coastal resources.
3. The secondary and cumulative effects are to allow the community of Shismaref to maintain their community for the near term. Long term solutions are uncertain.

A-3 Access

Traditional and customary access to subsistence use areas shall be maintained unless reasonable alternative access is provided for subsistence users.

Evaluation. Access to subsistence sites will not be impeded by the remediation plan activities.

A-4 Impacts on Subsistence

Within Important Use Areas identified for subsistence resources and activities in Chapter 4, entities proposing non-subsistence uses or activities shall locate such uses and activities at alternative sites outside the identified areas. Where location in alternative sites is not feasible and prudent, uses and activities shall minimize adverse impacts to subsistence resources, subsistence activities, and coastal habitats.

Evaluation. The revetment is within the general subsistence use area but can be constructed to not conflict with subsistence activities.

A-5 Impact Research

Major projects listed in Chapter 6.7 shall assimilate existing resource information and, where necessary, project applicants shall collect data to provide adequate information for identification and mitigation of adverse impacts to subsistence resources and activities in Important Use Areas identified in Chapter 4.

Evaluation. Local users provided sufficient information to evaluate impacts of the project on subsistence resources.

A-6 Subsistence Conflicts with Recreation

Recreational fishing and hunting access routes, facilities, and associated activities subject to permits and approvals shall be sited, constructed, and operated to minimize adverse impacts to subsistence activities.

Evaluation. N/A

B. Habitat and Biological Resource Protection

B-1 Habitat Alteration

Development activities and facility sites shall meet, at a minimum, the criteria established under State regulations (6 AAC 80.130) and Policies B-2 through B-10. Uses and activities that do not conform with Policies B-2 through B-10 may be allowed if:

- 1) there is a significant public need for the activity;
- 2) there are no feasible and prudent alternatives to meet the public need which would conform to the RCMP standards and other applicable policies in this section, and
- 3) all feasible and prudent steps to maximize conformance with the policies have been taken.

Evaluation. There is a significant need for the project. The alternative is to move structures or the community from the shoreline.

B-2 Habitat Maintenance

All habitats shall be managed to maintain or enhance the biological, chemical, and physical characteristics of the habitat which contributes to its capacity to support living resources.

Evaluation. The bluff and beach areas support very little habitat and are continually scoured during storms and are actively eroding.

B-3 Offshore Areas

Offshore areas shall be managed as a conservation zone in order to maintain or enhance subsistence, commercial, and sport fisheries and subsistence harvests.

Evaluation. N/A

B-4 Estuaries

Estuaries shall be managed to assure adequate water flow, natural circulation patterns and nutrient and oxygen levels, and to avoid the discharge of toxic wastes or silt and the destruction of productive habitats. These habitats shall be managed to maintain or enhance commercial, subsistence, and sport fisheries and subsistence harvests.

Evaluation. The Shishmaref Lagoon will not be affected.

B-5 Wetlands and Tideflats

Wetlands and tideflats shall be managed to assure adequate water flow, nutrients, and oxygen levels, and to avoid adverse changes in natural drainage patterns, the destruction of important or essential habitats, and the discharge of toxic substances.

Evaluation. Wetlands would not be affected. The tidelands and bluffs would be armored along the

shoreline for stabilization. The revetment would withstand storm waves but have no affect on nutrient flows, oxygen level, have a toxic discharge, nor destroy essential habitats.

B-6 Rocky Islands and Seacliffs

Rocky islands and Seacliffs shall be managed to avoid the harassment of wildlife, the destruction of important or essential habitats, and the introduction of competing or destructive species or predators.

Evaluation. N/A

B-7 Barrier Islands and Lagoons

Barrier islands and lagoons shall be managed to maintain adequate flows of sediments, detritus, and water, to avoid the alteration or redirection of wave energy which would lead to unnatural deposition in lagoons or the erosion of the islands, and to discourage activities which would decrease their use by coastal species including polar bears and birds.

Evaluation. Sarichef Island is a barrier island and is actively eroding. The revetment project would protect the shoreline bluffs and the community of Shishmaref behind the bluff and beach. The revetment would not cause erosion down current over and above the natural condition. The revetment would not discourage use of adjacent areas by wildlife.

B-8 High Energy Coasts

High energy coasts shall be managed to assure the adequate mixing and transport of sediments and nutrients, and to avoid the redirection or interruption of transport processes and wave energy.

Evaluation. The revetment would forestall the erosion of beach and bluff materials in front of the community in the short term.

B-9 Rivers, Lakes, and Streams

Rivers, lakes, and streams shall be managed to protect natural vegetation, water quality, important and essential habitats, and natural water channels and flows necessary for maintenance offish and wildlife habitats.

Evaluation. N/A

B-10 Upland Habitats

Important and essential habitats in upland areas shall be managed to maintain natural drainage patterns, surface and groundwater quality, and natural ground-water recharge areas. Alteration of vegetation shall be minimized to prevent excessive run-off, hydraulic or thermal erosion, or decreased biological productivity.

Evaluation. The revetment would not affect drainage pattern, affect groundwater or pevent runoff. The rock would cover some vegetation but would slow erosion.

B-11 Instream Flow

Except for public water supplies and domestic use, appropriation of water from rivers, streams, lakes, or wetlands shall not decrease instream flow below the amount determined necessary by the Alaska Department of Fish and Game and/or U.S. Fish and Wildlife Service to protect fish habitat and production and waterfowl habitat unless, in accordance with AS 46.15, the Commissioner of the Alaska Department of Natural Resources makes a finding based on public review that (1) the competing use of water is in the best public interest, and (2) no feasible and prudent alternative exists. Where a water appropriation, or the cumulative impact of more than one water appropriation, has the potential to decrease instream flow below the amount necessary for fish and waterfowl habitat and production, project applicants shall be required to provide the data necessary to determine instream flow.

Evaluation. N/A

B-12 Fish Passage

B-12.1 Development activities, facilities, and structures shall be designed, sited, constructed and operated in a manner which does not impede or interfere with timely access to spawning streams by adult anadromous fish or movements of juvenile anadromous fish.

Evaluation. N/A

B-12.2A11 temporary and permanent drainage structures constructed across anadromous fish streams, including multiple channels within the annual floodplain, shall provide for free and unrestricted movement of adult, fry, and juvenile anadromous fish which are present in the stream in accordance with the following criteria:

- Culverts shall be placed in and aligned with the natural stream channel and installed so that at least one-fifth of the diameter of each round culvert and at least six inches of the height of each elliptical or arch culvert is installed below the streambed at both the inlet and outlet of the drainage structure.

Culverts shall be designed to accommodate upstream movement of the slowest swimming anadromous fish species or age class using the watercourse.

Evaluation. N/A

B-13 Maintenance of Stream Characteristics

All permanent bridges and culverts shall, to the extent feasible and prudent, be positioned to avoid changing the direction and velocity of the stream flow. Drainage structure shall be adequately sized to accommodate the best available estimate of the 25-year peak discharge without significantly interfering with volume, velocity, sediment transport, or substrate characteristics of the stream where these properties are important to the uses of the stream.

Evaluation. N/A

B-14 Use of Explosives

To protect fish, explosives shall not be detonated within, beneath, or adjacent to marine, estuarine, or fresh waters that support fish unless the detonation of the explosives produces or is likely to produce an instantaneous pressure change in the water body of no more than 2.5 psi (pounds per square inch), or produces or is likely to produce a peak particle velocity greater than 0.5 ips (inches per second) in a

spawning bed during the early stage of egg incubation. Setbacks from fish-bearing waters shall be required to insure that buried explosive charges meet the criteria shown in Table 5-1 (Distance to Fish-Bearing Waters) and Table 5-2 (Distance to Spawning Beds). These criteria do not apply if the water body, including its substrate, is frozen or if no fish are present. (Please contact DGC or the district for Table 5-1 and 5-2 from the document.)

Evaluation. N/A

B-15 Water Intake Structures

Where water removal has been authorized from rivers, lakes, streams, or wetlands occupied by fish, the intake structure shall be designed, operated, and maintained to prevent entrainment or impingement of fish. Site specific requirements for water intake structures in anadromous fish waters shall comply with the screening and maximum velocity criteria presented in Table 5-3. (See hard copy of document for Table 5-3 or call DGC).

Evaluation. N/A

B-16 In-water Facilities and Structures

To the extent feasible and prudent, structures and facilities constructed in or over rivers, streams, lakes, wetlands, tideflats, or marine waters shall be located, designed, and constructed to:

- (a) avoid degradation of water quality;
- (b) avoid obstructions to fish and wildlife migration, spawning, and rearing; and
- (c) avoid obstructions to navigation, commercial fishing, and subsistence harvest activities.

Evaluation. The revetment would be in the storm surge zone and on the beach but would not affect fish migration, navigation or subsistence harvests.

B-17 Snow Removal From Waterbodies

Snow shall not be removed or compacted on ice cover overlying waterbodies which support fish except

for perpendicular crossings of frozen streams, as approved by the Alaska Department of Fish and Game.

Evaluation. N/A

B-18 Marine Mammal Haulouts and Seabird Colonies

Seabird colony sites and haul-outs and rookeries used by walrus, sea lions, and seals (Volume 1, Map 10, or as updated in the ADF&G Regional Habitat Management Guides) shall not be physically altered or disturbed by structures or activities in a manner that would preclude or significantly interfere with continued use of these sites. Development structures and facilities shall maintain a one-half mile buffer from identified use areas for walrus, sea lions, seals, and seabirds. Land and water activities with high levels of acoustical or visual disturbance shall, to the extent feasible and prudent, be conditioned in appropriate permits, leases, and plans of operation to prohibit these activities within:

- (a) one-half mile of walrus or sea lion haul-outs from May 1 through December 31;
- (b) one-half mile of seal haul-outs from March 1 through September 30; and
- (c) one mile of seabird colonies from April 15 through September 30.

Evaluation. N/A

B-19 Disturbance by Aircraft

To minimize adverse disturbances to seabird colonies (Volume 1, Map 10, or as updated in the ADF&G Regional Habitat Management Guides), fixed-wing and helicopter aircraft shall maintain a minimum altitude of 2,000 feet or a 1.5 mile horizontal distance from identified colony sites between April 15 and September 30. To minimize adverse disturbances to walrus, sea lion, and seal haul-out sites (Volume 1, Map 10, or as updated in the ADF&G Regional Habitat Management Guides), fixed-wing and helicopter aircraft shall maintain a minimum altitude of 2,000 feet or a one-half mile horizontal distance from identified haul-out sites between May 1 and December 31 for walrus and sea lions, and between March 1 and September 30 for seals.

These conditions shall not be applicable where safety, weather conditions, or authorized destination within the area of concern dictate otherwise.

Evaluation. No seabird colonies or marine mammal haulout sites are within the project area. However, migratory birds would be protected by scheduling work to avoid sensitive nesting periods.

B-20 Reindeer Fawning Areas

Development activities shall minimize disturbance to the primary reindeer fawning areas shown in Volume 1, Map 10, during the fawning period from April 15 through May 15. Development activities and uses shall maintain the integrity and function of authorized and permitted reindeer fawning areas and shall not preclude access to fawning areas. The Bering Straits CRSA Board shall annually provide

supplemental information concerning currently used reindeer fawning areas to the State and federal resource agencies.

Evaluation. N/A

B-21 Endangered Species

Development activities shall not cause significant impacts to the habitats or populations of the endangered bowhead whale, gray whale, peregrine falcon, or other designated endangered species identified by the State or federal governments.

Evaluation. There will be no affects to endangered species.

C. Air, Land, and Water Quality

C-1 State and Federal Regulations

State and federal statutes, regulations, and procedures pertaining to the protection of air, land, and water quality are incorporated into the Bering Straits CRSA coastal management program.

C-2 Water Quality Standards

C-2.1 Domestic and public water supplies, fresh and marine waters important for the growth and propagation offish, wildlife, and plants, and waters used for recreation shall be classified by the Alaska Department of Environmental Conservation (ADEC) for water quality standards necessary to maintain or enhance these uses. Reclassification of waters shall be made through ADEC amendment procedures.

C-2.2 All permits, leases or plans of operation for land and water uses which may directly affect

water quality shall require that these activities be sited, designed, constructed, and operated to provide a reasonable assurance that discharges will meet state and federal water quality standards for the receiving water use criteria.

C-3 Environmental Protection Technology

To the extent feasible and prudent, equipment and procedures utilizing the most effective technology for limiting emissions and effluents, and for the storage, handling, cleanup, and disposal of oil and other toxic substances shall be required for industrial, military, energy, and transportation facilities.

Evaluation. The revetment construction will be conducted to protect water quality standards by buffering work areas from water bodies. Work areas will isolate fuel and equipment to contain spills and emissions. Fuel spill containment equipment will be maintained on site.

C-4 Hazardous Materials and Toxic Substances [Administrative Policy]

C-4.1 Planning Processes: The Bering Straits CRSA Board shall work, if requested, with entities proposing treatment, storage, transportation, or disposal of hazardous materials or toxic substances to provide the Bering Straits CRSA Board, affected communities, Native corporations, and appropriate landowners the opportunity to participate in the planning process for the treatment, storage, transportation, or disposal of hazardous materials or toxic substances, in accordance with the procedures identified in Chapter 6, Implementation.

C-4.2 Storage, transportation, cleanup, and disposal of hazardous materials and toxic substances, petroleum and petroleum products shall comply with state regulations and federal regulations, including provisions for public notice and public participation.

C-4.3 Hazardous materials, toxic substances, petroleum, or petroleum products as defined in State and federal regulations, shall not be disposed of on barrier islands, on sea ice, in marine waters, or in any rivers, streams, lakes, or wetlands in the region.

Evaluation. The proposed action does not involve the treatment, storage, transportation, or disposal of hazardous materials or toxic substances.

C-5 Siting of Facilities [Administrative Policy]

The Bering Straits CRSA Board shall work, if requested, with developers of proposed industrial facilities to evaluate emissions and effluent dispersion, and assist in the siting of industrial facilities, in accordance with the procedures identified in Chapter 6, Implementation.

Evaluation. N/A

C-6 Cumulative Impacts

The cumulative impacts of new industrial development on the air and water quality of the district shall be considered in the review of proposed development projects. The cumulative effects on ambient air and water quality from proposed development projects shall meet all applicable requirements of State and federal laws and regulations.

Evaluation N/A

C-7 Refuse Disposal

State requirements for solid waste management and drinking water shall be adhered to in the operation and siting of disposal sites for refuse and putrescible wastes. Additionally, to the extent feasible and prudent, disposal sites for refuse and putrescible wastes shall:

C-7.1 Be located in upland sites a minimum of 1,500 feet from domestic water sources or fish-bearing water-bodies, and a minimum of 200 feet from any surface waters. The appropriate setback shall be determined following a site-specific surface and substitute hydrological investigation;

C-7.2 Be located to avoid destruction of important or essential habitats;

C-7.3 Be designed and operated to avoid pollution of surrounding areas and to avoid creation of an attractive nuisance for wildlife, i.e. prevent garbage foraging by wildlife;

C-7.4 Provide for the incineration of combustible materials generated by new development activities, unless the environmental effects of incineration are more detrimental than

disposal in a landfill or removal from the CRSA; and

C-7.5 Ensure that offshore developments, marine vessels, and floating fish processors shall dispose of refuse only in approved, onshore disposal sites. Floating fish processors shall dispose of fish processing wastes only at locations authorized by appropriate state and federal permitting agencies.

Evaluation. N/A

C-8 Sewage Disposal

Where feasible and prudent, sewage ponds and treated sewage outfalls shall be setback a minimum of 1,500 feet from currently used domestic water supplies or fish-bearing waters, and a minimum of 200 feet from any surface waters. The appropriate setback shall be determined following a site-specific surface and subsurface hydrological investigation.

Evaluation. N/A

C-9 Storage of Petroleum and Petroleum Products

Facilities for the storage of petroleum and petroleum products shall be in compliance with federal and state oil pollution regulations and regulations regarding drinking water supplies. Additionally, to the extent feasible and prudent, facilities for the storage, processing, or treatment of 5,000 gallons or more of petroleum or petroleum products shall be sited a minimum of 500 feet from domestic water supplies and any surface waters. Impermeable berms and basins capable of retaining 110 percent of the tank capacity (or capacity of the largest tank where multiple tanks are separately valved) plus maximum accumulated precipitation shall be required to minimize the potential for inadvertent pollution. For facilities of 5,000 gallons or more, a plan of operation for the facility, and for the recovery, storage, and transportation of spilled petroleum or petroleum products shall be prepared.

Evaluation. N/A

C-10 Oil Spill Contingency Plans [Administrative Policy]

The Bering Straits CRSA Board shall, if requested, work with project sponsors to provide that affected communities and landowners be involved in the development and review of oil spill contingency plans,

when such plans are required of project sponsors by federal or state statutes or regulations, in accordance with the procedures identified in Chapter 6, Implementation.

Evaluation. N/A

C-II Siltation and Sedimentation

Development uses, activities, and facilities shall not induce increased sedimentation, siltation, and resulting turbidity which could have a significant adverse impact to aquatic productivity and habitats, marine fish, shellfish, or anadromous fish populations in marine, estuarine, and freshwater environments.

Evaluation. The revetment construction would involve the placement of rock on the beach and bluff. A filter fabric would be placed as the first layer. There would be no fine grained materials placed to cause a turbidity plume. The disturbances to the bluff and beach is unavoidable but would not be expected to have an adverse impact to aquatic habitat and fish.

C-12 Discharge of Drilling Muds, Cuttings, and Production Waters

- C-12.1 The discharge of drilling muds, cuttings, and production waters into marine waters of the district shall adhere to NPDES conditions and the Alaska Coastal Management Program consistency requirements incorporated in or accompanying the NPDES permit. The Alaska Department of Environmental Conservation Certificate of Reasonable Assurance for NPDES permits shall require discharges to have no significant, acute, or cumulative adverse impacts on fish, wildlife, or aquatic plant resources.
- C-12.2 Discharges of drilling muds, cuttings, or production waters to fresh water lakes, streams, wetlands, or to estuarine waters shall not be permitted.
- C-12.3 Whenever feasible and prudent, disposal of produced waters in upland areas shall be accomplished using reinjection techniques.

Evaluation N/A

C-13 Oil and Gas Operations

Oil and gas plans of operation, and development and production plans must contain "best available technology" oil spill detection, containment, and clean-up measures which will minimize adverse impacts to fish and wildlife habitats, commercial fishing, and subsistence resources and activities.

Evaluation. N/A

C-14 Nuclear Testing

Uranium fuel processing facilities and nuclear testing shall be sited and conducted in a manner that does not adversely affect fish, birds, animals, vegetation, or people in the Bering Straits CRSA.

Evaluation. N/A

D. Historic, Prehistoric, and Archaeological Sites D-1 Regional and Local Planning [Administrative Policy]

It is the policy of the Bering Straits CRSA Board that cultural resources be considered during development of regional, and local planning activities, in accordance with the procedures identified in Chapter 6, Implementation.

D-2 Cultural Resource Areas

Based on the limited inventory of historic and archaeological sites in the region and the variety of environmental settings in which they have been found, all areas within the coastal zone boundary are considered to have the potential to contain significant cultural resources. Evaluation of potential impacts to significant cultural resources and appropriate mitigation shall be the responsibility of entities proposing development activities. Project sponsors proposing development activities with the potential to adversely affect cultural resources shall provide an assessment and evaluation of identified cultural resource sites. This shall include referring to BSCRSA Volume 2, Map 5.1 to see if the project is within a township where cultural sites have been documented. If the project is within such a township, the district and State Historic Preservation Office shall be contacted for more site-specific information. The district may identify local residents with site-specific knowledge. Where there is potential for undiscovered cultural sites in a project area, the appropriate federal and state agencies and the district, in consultation with affected communities, shall determine if a cultural resource survey is needed prior to surface disturbance activities.

Uses and activities which may adversely affect cultural resource areas shall comply with the following standards:

D-2.1 To the extent feasible and prudent, archaeological, prehistoric, and historic resources shall be protected from adverse impacts caused by adjacent uses and activities.

D-2.2 Prior to major projects listed in Chapter 6.7, the project applicant shall conduct a review, contact the State Historic Preservation Office, and ensure that areas or artifacts of significant historic, prehistoric, or archaeologic importance will not be disturbed or destroyed during project development.

If previously undiscovered artifacts or areas of historic, prehistoric, or archaeologic importance are encountered during development activities, the Bering Straits CRSA Board and the State Historic Preservation Office shall be notified. The site shall be protected from further disturbance pending evaluation by the State Historic Preservation Office.

D-3 Traditional Activities

Uses and activities which require permits or approvals and which may impact traditional activities at cultural or historic sites shall avoid or mitigate significant impacts. Appropriate mitigation is determined by the State and district in consultation with the landowners, affected communities, and the regional non-profit corporation.

D-4 Data Requirements [Administrative Policy]

Prior to any major archaeological project within the district, adequate information provided by project sponsors to the Bering Straits CRSA Board and affected communities will be used to determine the purpose of the project and the anticipated - impacts to cultural resources, fish and wildlife and their habitats, plant resources, and subsistence activities identified in the Bering Straits coastal management program, in accordance with the procedures identified in Chapter 6, Implementation.

D-5 Removal of Artifacts

All state and federal regulations governing removal of artifacts must be met. Additionally, on private lands, artifacts shall not be removed from the Bering Straits CRSA without permission of the affected landowner. On public lands, artifacts shall not be removed from the Bering Straits CRSA without permission from the affected communities and the regional non-profit corporation.

D-6 Cultural Resource Orientation

For major projects listed in Chapter 6.7, the project applicant shall inform construction and operation workforces of the importance of historic and cultural resources to local residents, and of the state and federal laws prohibiting disturbances of such resources.

Evaluation. The present Shishmaref community is built on top of the old community. There is a potential to uncover cultural materials any where on the island. For this reason, past projects have conducted surveys and had a qualified archeological monitor on site during construction to evaluate finds and conduct the appropriate protocols This procedure has been previously agreed to by the State Historic Preservation Officer.

E. Geophysical Hazards

E-1 Design and Siting Criteria

Industrial and commercial development, public buildings, and public housing projects shall not be located in a geophysical hazard area if a feasible and prudent alternate site exists. Development in geophysical hazard areas shall incorporate appropriate siting, design, construction, and operation measures to minimize property damage, minimize potential impacts to the environment, and protect against loss of life.

Evaluation. N/A

E-2 Local Knowledge [Administrative Policy]

It is the policy of the CRSA Board that information concerning known geological hazards be supplemented with the knowledge and experience of local residents, particularly elders. The Bering Straits CRSA Board shall, if requested, in cooperation with local villages, assist development entities in obtaining this information, in accordance with the procedures identified in Chapter 6, Implementation.

E-3 Coastal Processes

Development and resource extraction activities shall be sited and conducted to minimize accelerated coastal erosion or adverse impacts to coastal processes which could contribute to increased geophysical hazards.

E-4 Coastal Storm Surge/Tsunami Flooding

To the extent feasible and prudent, industrial and commercial development, public buildings, and public housing projects shall not be located within areas subject to storm surge or other saltwater flooding. When siting within such areas is unavoidable, structures shall be located, designed, constructed, and operated to minimize property damage, minimize potential impacts to the environment, and protect against loss of life.

E-5 Hazards

To the extent feasible and prudent, new developments shall avoid areas subject to landslide and mass wasting hazards. Industrial and commercial developments, public buildings, and public housing projects shall incorporate appropriate siting, design, construction, and operation measures to minimize the hazards.

E-6 Riverine Flooding

To the extent feasible and prudent, industrial and commercial developments, public buildings, and public housing projects shall not be sited within the annual floodplain and highwater channels of rivers, streams, and lakes. Where siting of facilities within this area is unavoidable, structures must be designed and constructed to minimize property damage, minimize impacts to the environment, and protect against loss of life.

E-7 Permafrost

Development activities and uses shall incorporate measures for protection of the organic mat and underlying permafrost into project planning, designing, and construction. Where disturbance of the organic mat is unavoidable, the area disrupted shall be stabilized to avoid degradation of the permafrost.

E-8 Ice Hazards

To the extent feasible and prudent, shoreline and offshore developments shall avoid areas subject to ice hazards such as ice over-ride, ridging, and gouging. Development within such areas shall be subject to siting, design, and construction and operation measures which minimize the potential hazards.

Evaluation. Since the community of Shishmaref has lived on Sarichef Island for many generations, the above hazards are unavoidable. This action would give the community some more time to decide if a long term plan such as relocation is feasible.

F. Coastal Development

F-1 Water-Dependent and Water-Related Activities

In planning for and approving development in shoreline and waterfront areas, the Bering Straits coastal management program and state agencies shall give priority, in the following sequence, to:

- a) water-dependent uses and activities;
- b) water-related uses and activities; and
- c) uses and activities which are neither water-dependent nor water-related, for which there is no feasible and prudent inland alternative to meet the public need for the use or activity.

Evaluation. The revetment must take place on the beach and bluff to protect the existing structures.

F-2 Mitigation

All land and water use activities shall be conducted with appropriate planning and implementation to mitigate potentially adverse effects on the following resources of local, State, or national importance: fish and wildlife populations and their habitats; subsistence resource uses and activities; commercial fishing uses and activities; and cultural resources. Mitigation shall include and be considered in the following order of preference:

- a) attempt to avoid the loss of the affected resource or activity;
- b) when the loss cannot be avoided, minimize the loss and the need for restoration, maintenance, or compensation efforts;

- c) when the loss of resources and/or associated activities cannot be minimized, restore or rehabilitate the resource to its predisturbance condition, to the extent feasible and prudent; and _
- d) when loss or damage to existing resources and associated activities is substantial and irreversible (including, for example, a seasonal loss in commercial fishing or subsistence harvest) and the above objectives cannot be achieved, compensation for resource and/or harvest loss shall be considered. In the case of loss of habitat production potential, enhancement of other habitats shall be considered as one alternative means of compensation.

The costs of mitigation, relative to the benefits to be gained, will also be considered in implementation of this policy.

Intent. Policy FF2 is intended to provide sequential steps that will be followed to mitigate potential impacts. Policy F-2(a) and (b) states that for all fish and wildlife populations and their habitats and commercial and subsistence harvest activities, it is appropriate to first attempt to avoid loss of habitat or interference with harvest activities, and secondly to minimize such loss or interference. The Coastal Policy Council encourages sound project site planning design, and construction to achieve these requirements.

Policy F-2(c) and (d) addresses restoration or compensation for fish and wildlife populations or habitat loss or interference with commercial and subsistence harvest activities. The importance of the habitat and commercial or subsistence harvest will be considered during evaluation of the need for restoration or compensation.

F-3 Dredge and Fill

Dredging or filling operations which may have a significant, adverse effect on important or essential fish and wildlife habitat shall be prohibited unless no feasible and prudent upland alternative site exists to meet the public need for the proposed project. If no feasible and prudent alternative is available, the project shall be designed, constructed, and maintained to minimize the area of disturbance, disruption of drainage patterns, and the need for continual maintenance of the project.

F-4 Dredge Spoil Disposal

Dredge spoils from construction-related activities shall be disposed of in approved onshore sites. Discharge may occur in an approved offshore area if the material is suitable fill for an approved project, or would cause less adverse impact to the environment, subsistence activities, and historic /cultural sites.

Offshore disposal shall meet applicable State and federal regulations. Dredged spoil disposal shall avoid significant adverse impact to important and essential habitats and significant alteration of shoreline processes. Onshore disposals shall be contained and stabilized to prevent erosion and leaching into adjacent waters.

F-5 Enclave Development

To the extent feasible and prudent, housing, camp facilities, and other infrastructure in support of major development projects shall be located in enclaves separated from existing communities, unless the affected community approves of a different arrangement.

F-6 Infrastructure and Public Services [Administrative Policy]

The Bering Straits CRSA Board shall, if requested, work with sponsors of major development projects listed in Chapter 6.7 which require a significant increase in infrastructure, utilities, or public services to ensure that the affected communities are appraised and receive reasonable advance notification of the proposed project needs, schedule, and specific plans to minimize the impact of development activities on the affected community, in accordance with the procedures identified in Chapter 6, Implementation.

F-7 Development Timing

To the extent feasible and prudent, offshore resource exploration and development activities shall be scheduled and/or located to avoid impacts to commercial fishing and subsistence activities. Where significant adverse impacts cannot be avoided, mitigation shall be considered in accordance with policy F-2.

F-8 Minimize Adverse Shoreline Disturbance

To maintain the stability and function of the marine coastline, stream and river banks, and lake shorelines, commercial and industrial development facilities and structures shall not be located closer than 100 feet from higher-high water (HHW) of coastlines and ordinary high water of river, stream, and lake shorelines unless the use or activity is water-dependent or water-related. Commercial or industrial uses and activities which are neither water-dependent or water-related may occur only if there is no feasible and prudent alternative to meet the public need.

F-9 Completion of Use

Upon abandonment, completion of use, or expiration of authorization (whichever occurs first), facilities, structures, and debris shall be removed by the project sponsor and the site rehabilitated unless there is a demonstrated future use for the site, as determined by appropriate state agencies and the district in consultation with affected communities and the project sponsor, or unless such removal and rehabilitation would cause greater impacts than abandonment. Where feasible and prudent, gravel removed from abandoned roads and pads shall be restored in approved sites for reuse in future construction.

F-10 Multiple Use

To the extent feasible and prudent, ports, piers, cargo handling, storage, parking, and other coastal facilities shall be designed and utilized to minimize the need for duplicative facilities. Subsequent use of facilities for purposes other than their original intent shall also be a consideration in the siting and design of coastal facilities.

F-II Compatibility

To the extent feasible and prudent, activities on and uses of coastal lands and waters shall be compatible with adjacent land and water uses, including subsistence.

F-12 Compliance Monitoring

For coastal developments and activities, the permitting or authorizing agency shall discuss and cooperatively set, as funding permits, monitoring priorities with the district to insure compliance with stipulations and special conditions on permits or authorizations.

Evaluation. The revetment is mitigative in forestalingl erosion and would not affect significant wildlife habitat. Cultural resources would be protected during construction by a qualified monitor.

G. Mining and Mineral Processing

G-I Access to Minerals

Where feasible and prudent, new residential, commercial, or industrial development shall not be sited in locations which would preclude or significantly hinder the effective and safe development and extraction of identified mineral deposits.

G-2 Planning Processes [Administrative Policy]

Entities proposing major mining or mineral processing activities are strongly advised to provide the Bering Straits CRSA Board, affected communities, and affected landowners an opportunity to participate in planning processes, in accordance with the procedures identified in Chapter 6, Implementation.

G-3 Sand and Gravel Priority Areas

To the extent feasible and prudent, sources of sand and gravel shall be authorized in a descending order of priority, as follows:

- a) existing, approved upland sand and gravel pits;
- b) reuse of sand and gravel from abandoned development areas;
- c) new upland sand and gravel pits;
- d) rivers, streams, and lakes that do not support fish;
- e) marine shoreline and offshore sand and gravel sources; and
- f) floodplain sand and gravel sources in fish-bearing streams.

G-4 Floodplain Sand and Gravel Extraction

If removal of sand and gravel from streams and rivers for construction, sale, or related purposes cannot be avoided, the following policies apply:

G-4.1 To the extent feasible and prudent, sand and gravel shall be extracted from the following river configurations in the order of highest to lowest preference: braided, split channel, meandering, sinuous, and straight. When possible, exposed sand and gravel bars in broad, active floodplains shall be considered for extraction.

G-4.2 To the extent feasible and prudent, changes to channel hydraulics shall be avoided.

G-4.3 Sand and gravel pits shall be located to minimize the probability of channel diversion through the site.

G-4.4 The effects of sand and gravel removal shall be minimized by maintaining buffers between active channels and the work area and by avoiding instream work, unnecessary clearing of riparian vegetation, and disturbance to natural banks.

G-4.5 To the extent feasible and prudent, site configurations shall avoid the use of long straight lines and shall be shaped to blend with physical features and surroundings to provide for diverse riparian and aquatic habitats.

G-4.6 If the work area may be inundated by high water during the period of operation, temporary dikes shall be constructed around the site to segregate the work area from active channels and avoid the entrapment of fish.

G-4.7 Removal of sand and gravel from floodplains of fish-bearing streams shall not adversely impact spawning or overwintering habitat.

G-4.8 When gravel washing operations occur in the floodplain, settling ponds shall be used to remove suspended materials from the wash water; settling ponds shall be adequately diked or set back from active channels to avoid breaching by a 10-year frequency flood. Wash water shall be recycled or other appropriate mining technologies will be utilized so that the effluent discharge complies with State and federal water quality regulations.

Evaluation. N/A

G-5 Overburden Disposal

Overburden shall not be disposed of in lakes, within the mean annual floodplain of streams or rivers, or below the limit of mean high water in intertidal areas and estuaries. Whenever feasible and prudent, overburden in upland areas shall be saved and replaced on the disturbed area to conform to the natural topography as part of the reclamation process.

Evaluation. N/A

G-6 Reclamation and Restoration

Reclamation of all upland and floodplain mined sites shall be required unless such reclamation would cause greater adverse impact to the environment. At a minimum, reclamation shall include the following elements, as applicable:

G-6.1 Topsoil shall be segregated from overburden, and both shall be stored above the mean annual floodplain of rivers, streams, and lakes. Topsoil for these purposes is defined as the layer of mineral and organic material in which fibrous plant roots can survive.

G-6.2 At the end of each mining operation season, all disturbed areas shall be graded to stable slopes or otherwise stabilized to minimize erosion. Within mean annual floodplains, regrading to ground contours which will not entrap fish nor significantly alter stream hydraulics shall occur at the cessation of each operating season. Sand and gravel materials used in the construction of settling ponds and other essential facilities may be retained in place until completion of use.

G-6.3 At the completion of mining activities or sand and gravel extraction, all disturbed areas shall be stabilized and revegetated, as appropriate. Restoration shall include the following:

- a) All disturbed areas shall be graded to stable slopes that blend with the natural topography;
- b) Erosion control measures shall be implemented as appropriate to stabilize the site; and
- c) Areas designated for revegetation shall be covered with topsoil to encourage establishment of native plant species.

An exception to these requirements is provided for the portion of a sand or gravel extraction site required to provide materials for continuing maintenance and operation activities. Maintenance of sand and gravel sites will comply with the requirements of part G-6.2 of this policy. *Evaluation. N/A*

G-7 Coastal Gravel Extraction

Sand and gravel may be extracted from coastal waters, intertidal areas, barrier islands, and spits only when there is no feasible and prudent alternative to coastal extraction which will meet the public need for the sand or gravel. Such extraction activities shall minimize adverse impacts on wave energy, sediment transport, herring and anadromous fish spawning and rearing habitats, and waterfowl habitat; minimize increases in shoreline erosion; and minimize increases in turbidity and sedimentation.

Evaluation. N/A

G-8 Offshore Mining, and Extraction of Sand and Gravel

G-8.1 Extraction of sand and gravel or recoverable minerals from the sea bottom in offshore areas shall avoid significant adverse impacts to important and essential habitats, commercial fishing activities, subsistence harvest activities, and navigation.

G-8.2 Extraction of offshore sand and gravel or recoverable minerals within a one mile radius from the ordinary high water mark of anadromous fish streams, measured from their confluence with mean lower-low water may be allowed only after the project applicant provides information demonstrating to appropriate state agencies and the district that mining and related activities will avoid significant' adverse impacts to anadromous fish and their habitat.

G-8.3 Dredge spoils and processed materials associated with offshore mining for recoverable minerals shall be discharged on the sea bottom in the area from which they were extracted unless discharge in an approved offshore or onshore site would cause less impact to the environment, subsistence activities, and historic/cultural sites.

G-8.4 Offshore mining and mineral processing activities shall avoid discharge of toxic substances (as defined in Department of Environmental Conservation regulations) in processing effluent in concentrations which exceed state or federal water quality criteria at the boundary of an approved mixing zone, or, if no mixing zone has been approved, at the point of discharge. In areas where toxic substances occur naturally in bottom sediments, offshore mining

activities shall not resuspend such toxic substances in the water column in excess of that allowed by water quality regulations or contribute to additional bioaccumulation of toxic substances in marine organisms or fish.

Evaluation. N/A

G-9 Placer Mining

G-9.1 Extraction of placer deposits shall avoid significant adverse impacts to important and essential habitats, commercial fishing activities, and subsistence harvest activities. If adverse impacts cannot be avoided, those impacts must be mitigated in accordance with Policy F-2.

G-9.2 Placer operations which discharge processing wastewater to rivers or streams shall incorporate functional sediment control facilities or techniques into the design and operation of the placer mine, as appropriate to meet State and federal water quality standards for effluent discharge.

G-9.3 Maximum use of recycled water or other appropriate mining technologies shall occur to minimize water withdrawal from the stream and subsequent discharge of effluent to adjacent waters.

G-9.4. All placer operations shall be designed, constructed, and operated in compliance with applicable State and federal regulations and water quality standards.

G-9.5 Placer mining operation sites shall be rehabilitated upon completion of use in accordance with Policy G-6. Tailings and processed materials shall be stabilized or contained as appropriate to avoid accelerated erosion and prevent leaching of toxic substances that may be present with the target minerals.

Evaluation. N/A

H. Energy Facilities

H-1 Planning Requirements [Administrative Policy]

The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected landowners, and affected communities the opportunity to participate in planning processes for

major industrial and commercial facilities, in accordance with the procedures identified in Chapter 6, Implementation.

H-2 Siting Consideration

To the extent feasible and prudent, the siting and approval of major industrial and commercial facilities shall be based on the following standards:

H-2.1 Facilities shall be sited to minimize adverse environmental and social effects on the resources and residents of the region, while satisfying industrial and commercial requirements;

H-2.2 Facilities shall be sited to be compatible with existing and subsequent adjacent uses and projected community needs;

H-2.3 Consolidate facilities and consider the concurrent use of facilities for public or economic reasons;

H-2.4 Select sites with sufficient acreage to allow for reasonable expansion of facilities;

H-2.5 Site facilities where existing infrastructure, including docks, roads, and airstrips, is capable of satisfying industrial and commercial requirements;

H-2.6 Select sites where development will minimize the need for site clearing, dredging, or construction in productive coastal habitats;

H-2.7 Site facilities to minimize the probability that petroleum spills or other forms of contamination along shipping routes could adversely affect commercial and subsistence fishing areas of biologically

productive or vulnerable habitats, including marine mammal haul-outs, seabird feeding areas, and water-fowl nesting areas.

H-2.8 Site facilities so that the design and construction of those facilities and the support infrastructure will allow for the free passage and movement offish, wildlife, and reindeer with due consideration for historic migratory patterns;

H-2.9 Site facilities so that areas of particular subsistence, scenic, recreational, environmental, or cultural value will be protected;

H-2.10 Site facilities in areas of least biological productivity, diversity, and vulnerability, and where effluents and spills can be controlled and contained;

H-2.11 Site facilities where winds and air currents maximize dispersal of airborne emissions which cannot be captured before escape into the atmosphere;

H-2.12 Select sites in areas which are designated for industrial and commercial purposes and where traffic is minimized through population centers;

H-2.13 Site and construct facilities such that public access is not unreasonably restricted and where alternate routes for public access can be provided;

H-2.14 Select sites where vessel movements will not result in overcrowded harbors or interfere with commercial or subsistence fishing operations or equipment; and

H-2.15 Cooperate with private landowners, local governments, developers, and State and federal agencies in the development of major industrial and commercial facilities.

H-3 Use of Existing Energy Facilities

To the extent feasible and prudent, existing energy facilities shall be used to meet new requirements for exploration and production support bases, transmission/ shipment (including pipelines and transportation systems), and distribution of energy resources.

H-4 Geophysical Surveys

Geophysical surveys in fresh and marine waters shall be conducted using energy sources such as air guns, gas exploders, and other sources that have been demonstrated to be harmless to fish and wildlife.

Intent: Policy H-4 balances several uses of state concern and national interest, including exploration and production of oil and gas resources and the protection and utilization of the state's fisheries. After considering the information available on the value of the state's fisheries, the potential adverse impacts associated with the use of explosives in open water, and the potential information to be derived from seismic activities in the transition Zone, the state has serious concerns about the use of explosives for seismic exploration in marine waters. The state recognizes that limited use of explosives may be necessary to obtain quality seismic data in certain areas of the transition Zone, such as when there is a need to "tie" geophysical information between potential offshore lease tracts and onshore well sites.

Implementation of Policy H-4 will be based on the best available scientific information relative to the significant adverse impacts of explosives and other seismic technology on fish and wildlife. The State of Alaska is reviewing its current policy pertaining to the use of explosives in marine waters, evaluating alternative means of collecting seismic information in the transition Zone, and evaluating available measures to mitigate adverse impacts on marine life and fishery activities. The Alaska oil and gas industry has sponsored a program of research to provide additional information with regard to the effects of linear explosives on juvenile salmon in the marine environment. Should a review of this research and the continuing evaluation of the state's seismic policy by the State of Alaska indicate a change to this policy is warranted, the state will pursue such a change.

Evaluation. N/A

I. Transportation and Utility Systems

1-1 Planning Processes [Administrative Policy]

The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected landowners, and affected communities with the opportunity to participate in planning processes for transportation and utility corridors, in accordance with the procedures identified in Chapter 6, Implementation.

1-2 Facility Design, Construction, and Maintenance

Highway, airport, port, and utility system design, construction, and maintenance shall minimize alteration of watercourses, wetlands, and intertidal marshes and consider visual compatibility of facilities with the environment.

1-3 Siting and Scheduling

Transportation and utility corridors shall be sited, designed, and operated, with the following standards:

- 1-3.1 Adverse impacts to habitats, biological resources, subsistence activities, and the community lifestyle shall be minimized;
- 1-3.2 To the extent feasible and prudent, transportation and utility corridors and facilities shall be consolidated;
- 1-3.3 Impacts to the free passage and movements of fish, wildlife, and reindeer shall be minimized, with due consideration for historic migratory patterns;
- 1-3.4 Phasing of construction shall be scheduled in project plans to minimize disturbance during critical migration periods for fish, wildlife, and reindeer; and
- 1-3.5 Road and pipeline crossings of anadromous fish streams shall be minimized and, to the extent feasible and prudent, consolidated at single locations to reduce multiple impacts to an individual drainage.

1-4 Harbors and Shipping Routes

Harbors and shipping routes shall be sited to avoid reefs, shoals, drift ice and other ice hazards, and other navigational obstructions unless appropriate technology or navigational techniques can mitigate these hazards.

1-5 Airstrips

Where feasible and prudent, new airstrips shall be located, designed, and constructed to avoid physical, visual, and acoustical disturbances to residents, subsistence activities, and important and essential fish and wildlife habitats and populations.

1-6 Electric Transmission Facilities

Wherever feasible and prudent, transmission lines and towers shall be constructed in existing transportation and utility corridors and shall not be sited in important or essential waterfowl habitats or migration areas.

Evaluation N/A

J. Recreation

J-1 Planning Processes [Administrative Policy]

The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected landowners, and affected communities an opportunity to participate in recreation planning, in accordance with the procedures identified in Chapter 6, Implementation.

Evaluation. N/A

K. Disposals of Interest

Planning Processes [Administrative Policy]

The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected communities, and affected landowners the opportunity to participate in the planning process for land disposals and disposal of interests within the region, including homestead settlements, subdivisions, agricultural disposals, and leases, in accordance with procedures identified in Chapter 6, Implementation. Coordination should include the village corporation shareholders for the homesite programs and other private land disposal programs.

K-2 Coordination with Board [Administrative Policy]

The Bering Straits CRSA Board shall assist the state and federal government in the evaluation of disposals of interest and land disposal programs by providing an assessment of the market for land, the type of disposal that meets the needs of the residents, the location of appropriate disposal areas, and optimum timing and design of disposals, in accordance with procedures identified in Chapter 6, Implementation.

K-3 State Land Disposals

The Bering Straits CRSA will participate in the planning process for programmatic state land disposals in accordance with the authorities outlined in AS 38.04.065, AS 38.05.300, AS 38.05.945), 6 AAC 50, and other Department of Natural Resources procedures (Land Administration Data System, or "LADS" process).

Evaluation. N/A

Timber

L-1 Planning Processes [Administrative Policy]

Entities proposing timber harvest and processing activities are strongly advised to provide the Bering Straits CRSA Board, affected communities, and affected landowners the opportunity to participate in the planning process, in accordance with the procedures identified in Chapter 6, Implementation.

L-2 Fire Protection [Administrative Policy]

The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected communities, and affected landowners the opportunity to participate in the planning process for amendments to fire protection agreements affecting the district, in accordance with the procedures identified in Chapter 6, Implementation.

L-3 Timber Management Practices

Best Management practices shall be used in all commercial forestry and timber harvest activities in accordance with the Forest Resource and Practice Regulation (11 AAC 95) of the Forest Practices Act (AS 41.17).

Evaluation. N/A

M. Coastal Access and Easements

M-1 Planning Processes [Administrative Policy]

The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected landowners, and affected communities the opportunity to participate in the planning process for access points and easement routes on state and federal lands, in accordance with the procedures identified in Chapter 6, Implementation.

M-2 Easements

Recreational, industrial, commercial, and other users shall utilize permitted or identified easements through or adjacent to private lands. *Evaluation. N/A*

